Method of Payment

Registration Fee: $125 per person. Pre-registration is preferred.

- Check Enclosed (payable to Purdue University)
- Company Purchase Order
  PO Number _____
- Credit card (VISA, MasterCard, American Express, or Discover. Please see registration form on reverse side for required credit card information)

Please mail or fax your registration to:
Nona Schaler
CEC Business Services
Purdue University
Stewart Center, Room 110
128 Memorial Mall
West Lafayette, IN 47907-2034
Phone: (765) 494-2756
Fax: (765) 494-0567

For additional training questions, please contact Ethan Rogers at (317) 275-6817.

Purdue University is not responsible for cost due to cancellation.

Purdue University is an equal access and equal opportunity institution.

A Strong Energy Portfolio for a Strong America
Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

CEC Business Services
Purdue University
Stewart Center, Room 110
128 Memorial Mall
West Lafayette, IN 47907-2034

Steam Systems Assessment

industrial training workshop

Calumet Conference Center
Purdue University, Calumet
2300 173rd Street
Hammond, IN 46323-2094

July 27, 2006

U.S. Department of Energy
Energy Efficiency and Renewable Energy
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable.

Overview

The Steam System Improvement Workshop covers the operation of typical steam systems and discusses methods of system efficiency improvement. The one-day workshop is designed for end users – at the energy manager, steam system supervisor, engineer, and operations level – who have steam system responsibilities in industrial and institutional plants. The workshop is divided into three major categories:

- Steam Generation Efficiency. The boiler is investigated with the target of obtaining optimum steam generation efficiency.
- Resource Utilization Effectiveness. Encompasses fuel selection, combined heat and power systems, steam system balancing and steam end users. The course covers the basic concepts of combined heat and power systems along with opportunities associated with steam system balancing.
- Steam Distribution System Losses. Focus areas include: steam leaks, heat transfer loss through insulation, and condensate loss.

For each of the categories the workshop goes into detail about the equipment and the theory of operation. Several case studies are presented from steam system surveys conducted by the course developer.

The workshop also introduces the major steam opportunity assessment tools developed and utilized by BestPractices Steam. The major text for this workshop is the "Steam System Survey Guide," a technical reference document developed by BestPractices Steam. The workshop also introduces the Steam System Assessment Tool (SSAT), and several of the workshop examples are presented using the SSAT. Finally, the workshop introduces the 3E-Plus insulation appraisal software and an example is presented that uses the 3E-Plus software.

Co-Sponsored by: NALCO

NiSource Energy Technologies
A NiSource Company

PURDUE UNIVERSITY

Technical Assistance Program (TAP is a NIST MEP Network Affiliate)

Agenda

8:00 Registration

8:30 - 12:00 Morning Session

- Introduction: The boiler & steam system
- The Steam System Scoping Tool
  - Overview & results
- Steam Generation Efficiency
  - Definitions & measurements
  - Shell loss
  - Blowdown loss
  - Stack losses
  - Boiler analysis case studies

12:00 - 1:00 Lunch (provided)

1:00 - 4:30 Afternoon Session

- Resource utilization effectiveness
  - Fuel selection
  - Backpressure turbine operation
  - Condensing turbine operation
- Distribution system management
  - Steam leaks
  - Steam traps
  - Insulation
  - Condensate recovery

Instructor

Debbie has a BS degree in chemistry from the University of Wisconsin. She has worked for Nalco Company for over 29 years in the area of boiler systems. She is now a principal consultant with Nalco's Technical Resource Center where she supplies assistance on a worldwide basis. Debbie is First Vice Chair of the American Society of Mechanical Engineers (ASME) Committee on Water and Steam in Thermal Systems, which develops consensus recommendations for such operating issues as feedwater quality, steam purity, and boiler system lay-up. She also vice chairs the Department of Energy's BestPractices Steam Steering Committee and is an active member in the Best Practices and Technical Subcommittee. She is a DOE Qualified Steam Specialist.

Optimize your steam systems and reduce energy costs...

Registration Form

Register early to ensure space - seating is limited!

Registration fee: $125 per person. Please see reverse side for payment information.

First Name _____ Last Name _____

Title _____

Company Name _____

Street Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____

Email Address _____

Credit Card Number (if paying by Credit Card) _____ Expiration Date _____

Signature _____

Internal Purdue University Training Reference Number: 3244NJS-B

Accommodations

A block of rooms at the Marriott Courtyard has been reserved for this training for $105 per night. Please call the hotel directly to make your reservations at 219-845-6350. Mention the Industrial Energy Services block to receive the discounted room rate.